Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Amendment of Part 90 of the Commission's Rules	)	WP Docket No. 07-100
	)	

To: The Commission

COMMENTS OF THE REGIONAL TRANSPORTATION DISTRICT

(SERVING THE DENVER METROPOLITAN AREA)

The Regional Transportation District submits these comments in response to FCC 18-33, Sixth Further Notice of Proposed Rulemaking, adopted March 22, 2018.

I. BACKGROUND

The Regional Transportation District ("RTD") provides public transportation in eight counties in Colorado including all of Boulder, Broomfield, Denver and Jefferson counties, parts of Adams, Arapahoe and Douglas Counties, and a small portion of Weld County. As a public agency, RTD is dedicated to serving the public and providing for the transportation needs of over 2.8 million people located within its 2,400 square mile District. Services include bus, rail, shuttles, ADA paratransit services, demand responsive services like Call-n-Ride, special event services, vanpools, and many more.

RTD holds an FCC license for 4.9 GHz service (WQPC914) and this service is used for a variety of public-safety related functions, most importantly for Federally-mandated Positive Train Control (PTC) on the District's several commuter rail lines.

II. COMMENTS

In accordance with FCC rules, use of the 4.9 GHz band in Colorado is coordinated by the Region 7 700 MHz and 4.9 GHz Public Safety Regional Planning Committee. Despite the fact that use of the 4.9 GHz band is FCC-licensed, coordinated with other users and restricted to public safety agencies, use of the band in many ways is similar to the unlicensed 2.4 GHz band and therefore subject to uncontrolled interference. Users are simultaneously licensed in overlapping geographical areas and band segments, incompatible airlink standards are used and harmful interference is common. It is RTD's view that radio interference is the main reason for the band being used less than expected (by the FCC), although the band may be used more widely than the FCC assumes. Despite the likelihood of harmful interference, nearly 20 agencies inside the District hold 4.9 GHz licenses today. The FCC's statement that "With no more than 3.5% of potential licensees [nationwide] using the band ..." does not capture the true use of the band today because not all agencies are created equally. The 4.9 GHz band is more likely to be used in urban areas where it supports larger agencies and therefore serves a greater number of users. RTD has already experienced harmful interference to its 4.9 GHz network and the District is concerned that introducing new users to the band is likely to increase the occurrences of harmful radio interference.

Perhaps the two most common airlink standards used in the 4.9 GHz band are IEEE 802.11 WiFi and IEEE 802.16 WiMAX. RTD uses WiMAX on its A-Line, the passenger rail line that serves the Denver International Airport (DIA) from Union Station in downtown Denver. When this rail line was first being constructed and tested, RTD discovered that DIA was licensed in the 4.9 GHz using a different airlink standard and in the same band segment proposed to be used by by RTD. This problem was eventually resolved by separating the two agencies in adjacent band segments. RTD subsequently discovered that the Denver Police Department operated an extensive 4.9 GHz network of video cameras in downtown Denver that also caused harmful interference to the PTC radios. Because RTD employed WiMAX and Denver PD employed WiFi, there was no point coordination function to gracefully resolve potential interference. The two agencies operated briefly at reduced bit rates resulting from the interference until such time that Denver PD decided to place most of its cameras on a fiber optic cable network. In hindsight, RTD believes the 4.9 GHz band should have been allocated in the Denver area under more restrictive rules that required all agencies in the metropolitan area to operate from a single wide area network on a single 40 MHz channel using a single airlink standard (leaving 10 MHz for other applications that for whatever reason cannot use the common broadband airlink standard).

To summarize, RTD operates a full 4.9 GHz WiMAX deployment to implement Positive Train Control on its passenger rail network. This system already experiences harmful interference and RTD believes opening the spectrum to more parties will worsen this problem, even if new co-existence protocols are implemented with priority given to public safety users. Whatever protocols are adopted, there will be significant cost to the District for testing,

implementation and possible replacement of equipment and software. Some party other than the District should be responsible for bearing these costs.

Respectfully submitted,

REGIONAL TRANSPORTATION AUTHORITY

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